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11,587/52

COMMONWEALTH OF AUSTRALIA

PATENT SPECIFICATION

		Class	Int. Cl.
Application Number	11,587/52		
Lodged	28th July, 1952.	72.1.	-
Accompanied by a Provisional Specification.			
Complete Specification Entitled	AN IMPROVED VICE OR CLAMP.		

Lodged	20th May, 1953.
Accepted	Lapsed Before Accepted.
Published	23rd July, 1953.

Convention Priority -

Applicant GEOFFREY THOMAS BRITTAIN.

Actual Inventor Not Stated.

Related Art:	123,828(19,345/45)	72.1.
	131,520(8540/46)	80.4; 72.1.
	117,269(6041/42)	56.4; 72.1.

The following statement is a full description of this invention, including the best method of performing it known to US :

65-1D-7/10/69-522.

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Government Printing Office, Canberra

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This invention relates to an improved vice or clamping member.

The principal object of the invention is the provision of a vice or clamp that may be used where any known vice or clamp of the same type may be used, but which, in addition possesses additional features such as, for instance, a revoluble jaw, or jaws having one or more faces adaptable for holding specially or unusually shaped articles in firm and rigid manner.

Another object of the invention is to provide in a vice or clamp, an adjustable jaw or jaws having self-aligning means so that odd shaped articles may be held between opposing jaw faces so that the latter make firm contact on the said odd shaped article held within the jaws of the vice or clamp.

Yet another object of the invention is to provide an improved vice or clamp having main jaws adapted to open or close relatively to one another and subsidiary holding means held by but movable relatively to the said jaws and between which articles are adapted to be gripped and held.

An improved vice or clamp according to this invention comprises a construction characterized in that one member thereof is attached and movable relatively to another member by means of a screw and handle, each said member having a complementary jaw, with each said jaw supporting another member rotatably movable relatively thereto.

An improved vice or clamp constructed in accordance with this invention includes one primary member pivotally secured to another primary member, each said member having

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an inwardly bent jaw part, each said jaw part rotatably supporting a gripping member, said gripping members being interchangeable with other differently shaped gripping members, the two primary members each carrying a pivotally mounted nut adapted to be traversed by a long screwed shank having an operating handle.

An exemplary construction embodying the invention is illustrated in the accompanying drawings, and therein:-

Figure 1 is a view in perspective, of the improved vice or clamp of this invention.

Figure 2 is a side elevation showing different positions of the parts in full and dotted lines.

Figure 3 is a side elevation projected from the full lines of Figure 2.

Figures 4 and 5 are a plan and sectional view respectively of a gripping member.

In carrying the invention into practical effect, there is provided a primary bifurcated member comprising the arms 6 and 7 having inwardly offset ends 6a and 7a and joined by the spacer pin 8.

Rearwardly, the arms 6 and 7 are pivotally connected to a nut member 9.

At an intermediate location a second primary bifurcated member is connected to the first primary member, and comprises the arms 10 and 11 having the inwardly offset parts 10a and 11a, the second primary member being pivotally mounted on the pin 12 which passes through the assembly, which includes the spacer sleeve or ball joint member 13.

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At the junction point of the arm 10 and the offset part 10a, and the arm 11 and the offset part 11a, a nut member 14 is provided, to which the arms of the second primary member are pivotally secured.

Through the nut member 9 a long threaded shank 15 is passed, being adapted to traverse the nut, and an operating handle 15b is provided for the purpose of enabling rotational movement to be imparted to the threaded shank. The end 15a of the shank is rotationally secured in the nut member 14.

As the shank is rotated, the primary members move relatively to one another, rotational movement of the shank in one direction causing the inwardly offset parts of each primary member to move towards one another, as shown by dotted lines in Figure 2, while rotational movement of the shank in the opposite direction causes the offset parts to move away from one another as shown in Figure 1, and by the full lines in Figure 2.

In order that articles or work-pieces of differing dimensions may be firmly contacted and grasped, pivotally mounted contacting members 16 and 17 are secured at the inner ends of the offset parts of the primary members.

The contacting members 16 and 17, have free rotational movement, and as a consequence, will meet an article to be gripped between them in a positive, full-face manner.

The contacting members are secured in place by removable pins 16a and 17a, so that when necessary, they may be removed and replaced by shaped or contoured con-

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tracting members, as shown in Figures 4 and 5. The members there shown would be suitable for gripping pipes or other articles having curved surfaces.

In a modified arrangement, faces of the contacting member 16 may each have a different shape or contour, and each said different shape or contour is made complementary to one of the faces of the member 17.

The gripping members 16 and 17 are allowed some play about their respective pins 16a and 17a to allow slight angular displacement where such is necessary.

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The Claims Defining the Invention are as follows:-

1. An improved vice or clamp, comprising a construction characterised in that one member thereof is attached to and movable relatively about another member by means of a screw and handle, each said member having a jaw complementary to another jaw on the other member, with each said jaw supporting another gripping member complementary each to each and movable relatively to the jaw member which supports it.
2. An improved vice or clamp, which includes a primary member pivotally secured to another primary member, each said primary member having an inwardly bent jaw part, each said jaw part rotatably supporting a gripping member, said gripping members being interchangeable with other gripping members, the two primary members each carrying a pivotally mounted nut member adapted to be traversed by a screwed shank having an operating handle, wherein rotation of the screwed shank in one direction moves the jaws and gripping members towards one another, while rotation of the screwed shank in the opposite direction moves the jaws and gripping members apart.
3. The arrangement according to Claim 2, wherein the first said primary member is of bifurcated construction comprising side arms having inwardly offset parts, said side arms being joined together by a spacer pin or the like at a forward location, and being pivotally connected to a nut member at their rear ends.

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4. The arrangement according to Claim 2, wherein the second said primary member is of bifurcated construction comprising side arms having inwardly offset parts, and being pivotally connected at their inner ends to an intermediate part of the said first primary member, and pivotally secured to a nut member at a point coincident with the junction of its said side arms and the offset parts thereof.
 5. The arrangement according to Claim 2, 3 or 4 wherein the screw threaded shank is provided, adapted to be traversed through the said nut members, and for the purposes set forth.
 6. The arrangement according to any one of the preceding claims, wherein each said primary member pivotally supports a gripping member, and for the purposes set forth.
 7. The arrangement according to Claim 6, wherein the said gripping members are removably mounted on their pivot pins.
 8. The arrangement according to Claim 7, wherein each said gripping member has a number of faces each of which is contoured differently to the other said faces.
 9. The arrangement according to Claim 8, wherein the contour or shape of each face on one said gripping member is complementary to the shape or contour of one face on the other said gripping member.
 10. The improved vice or clamp constructed, arranged and adapted to operate substantially as described and set forth, and as illustrated in the accompanying drawings.

Dated this 18th 294,394
 day of May 1953.

CLIP. WALLACE
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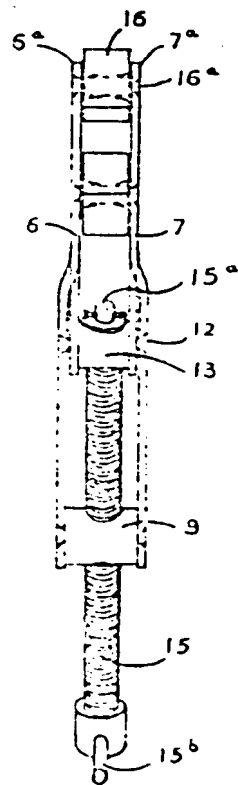


Fig. 3.

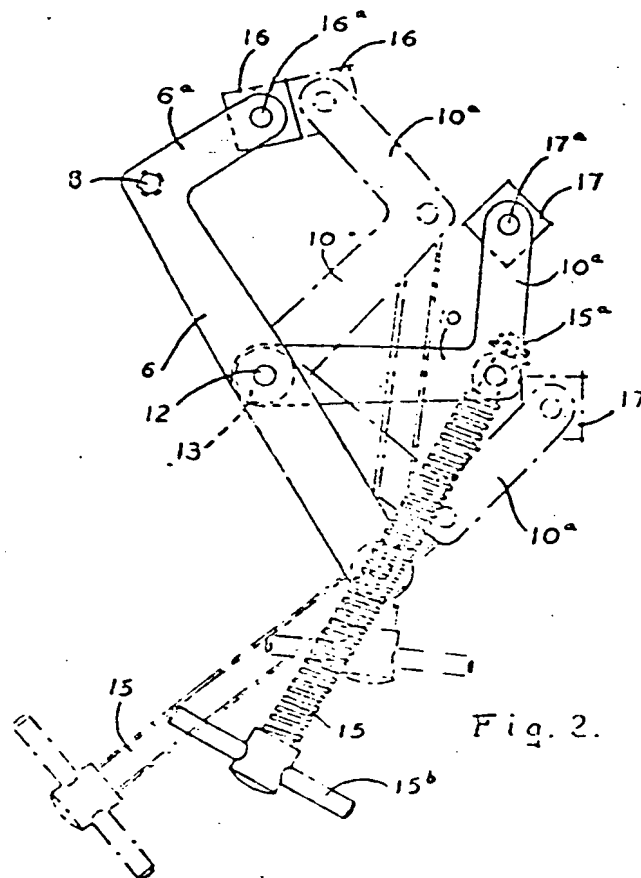


Fig. 2.

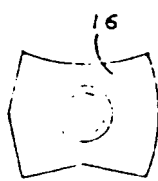


Fig. 4.

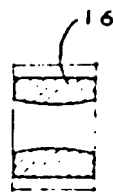


Fig. 5.

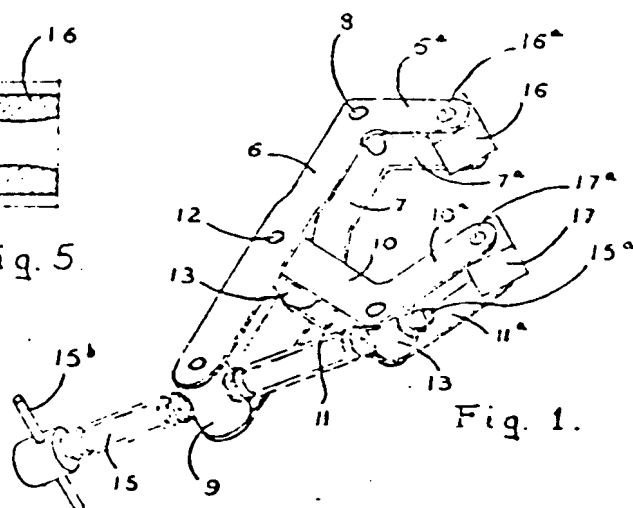


Fig. 1.